Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A method for encoding a selected aspect of a signal that is defined by signal elements that are discrete in at least one dimension, said method comprising the steps of:

a. dividing the signal into at least one band, at least one of said at least one band(s) having a plurality of adjacent signal elements;

b. in at least one band, identifying a signal element having a magnitude with a preselected size relative to other signal elements in said at least one band(s) and designating said signal element as a "yardstick" signal element for said at least one band(s); and

c. encoding the location of at least one yardstick signal element(s) with respect to its position along said at least one dimension in which said signal elements are discrete within its respective band.

2. (Original) The method of claim 1, further comprising the step of quantizing the magnitude of said at least one yardstick signal element(s) for which the location was encoded.

3. (Original) The method of claim 2, at least one of said yardstick signal elements having a magnitude that is greater than the magnitude of any other signal element in its respective band.

4. (Original) The method of claim 2, at least one of said yardstick signal elements having a magnitude that is greater than the magnitude of all but one other signal elements in its respective band.

5. (Original) The method of claim 2, at least one of said yardstick signal elements having a magnitude that is greater than the magnitude of all but a preselected number of other signal elements in its respective band.

6. (Original) A method for decoding a code representing a selected aspect of a signal that is defined by signal elements that are discrete in at least one dimension, which code has been encoded by a method comprising the steps of:

a. dividing the signal into at least one band, at least one of said at least one band(s) having a plurality of adjacent signal elements;

b. in at least one band, identifying a signal element having a magnitude with a preselected size relative to other signal elements in said at least one band(s) and designating said signal element as a "yardstick" signal element for said at least one band(s);

c. encoding the location of at least one yardstick signal element(s) with respect to its position along said at least one dimension in which said signal elements are discrete within its respective band;

d. quantizing the magnitude(s) of said at least one yardstick signal element(s) for which the location was encoded; and

e. using a function of said encoded location(s) and magnitude(s) of said at least one yardstick signal element(s) to encode said selected aspect of said signal;

said method of decoding comprising the step of translating said code based on a function that is appropriately inversely related to said function of the location(s) and magnitude(s) used to encode said code.

7. (Original) An apparatus for encoding a selected aspect of a signal that is defined by signal elements that are discrete in at least one dimension, said apparatus comprising:

a. means for dividing the signal into at least one band, at least one of said at least one band(s) having a plurality of adjacent signal elements;

b. in at least one band, means for identifying a signal element having a magnitude with a preselected size relative to other signal elements in said at least one band(s) and means for designating said signal element as a "yardstick" signal element for said band;

c. means for encoding the location of at least one yardstick signal element(s) with respect to its position along said at least one dimension in which said signal elements are discrete within its respective band; and

d. means for quantizing the magnitude of said at least one yardstick signal element(s) for which the location was encoded.

8. (Original) An apparatus for decoding a code representing a selected aspect of a signal that is defined by signal elements that are discrete in at least one dimension, which code has been encoded by an apparatus comprising:

a. means for dividing the signal into at least one band, at least one of said at least one band(s) having a plurality of adjacent signal elements;

b. means for, in at least one band, identifying a signal element having a magnitude with a preselected size relative to other signal elements in said at least one band(s) and designating said signal element as a "yardstick" signal element for said at least one band(s);

c. means for encoding the location of at least one yardstick signal element(s) with respect to its position along said at least one dimension in which said signal elements are discrete within its respective band;

d. means for quantizing the magnitude of said at least one yardstick signal element(s) for which the location was encoded; and

e. means for using a function of said encoded location and magnitude of said at least one yardstick signal element(s) to encode said selected aspect of said signal;

said decoding apparatus comprising:

i. a yardstick location decoder; and

ii. a code translator that applies a translating rule that is appropriately inversely related to said function of the location and magnitude used to encode said selected aspect of said signal.

9. (Once Amended) A method of encoding a signal defined by signal elements that are discrete in at least one dimension, the method comprising:

dividing at least some of the signal elements into a plurality of bands, at least one band having a plurality of adjacent signal elements;

selecting a signal element from each of more than one of the bands, at least one of the selected signal elements being from one of the bands having a plurality of adjacent signal elements; and

performing a transformation on the selected signal elements.

10. (Canceled)

11. (Once Amended) The method of claim 9 wherein selecting the signal element comprises identifying the signal element having a preselected size relative to the other signal elements within a band.

12. (Once Amended) The method of claim 9 wherein performing a transformation comprises performing a transformation on the magnitudes of the selected signal elements.

13. (Once Amended) The method of claim 9 wherein the signal elements comprise samples of a signal.

14. (Once Amended) The method of claim 9 wherein the signal elements comprise transform coefficients.

15. (Once Amended) The method of claim 14 wherein the transform coefficients comprise transform coefficients derived from a frame obtained by applying a window to samples of a signal.

16. (Once Amended) The method of claim 14 wherein the transform coefficients correspond to at least one of the following: discrete cosine transform coefficients and time-domain aliasing cancellation coefficients.

17. (Canceled)

18. (Once Amended) The method of claim 9 wherein performing the transformation comprises using a transformation that reduces the average number of bits needed to encode the selected signal elements.

19. (Once Amended) The method of claim 9 further comprising quantizing results of the transformation.

20. (Once Amended) The method of claim 19 further comprising using the quantized results of the transformation to encode signal elements.

21. (Once Amended) The method of claim 20 wherein using the quantized results of the transformation comprises allocating bits to signal elements.

22. (Canceled)

23. (Once Amended) The method of claim 9 further comprising using the selected signal elements to encode signal elements.

24 – 27. (Canceled)

28. (Once Amended) A method of encoding a signal defined by signal elements that are discrete in at least one dimension, the method comprising:

dividing at least some of the signal elements into a plurality of bands, at least one band having a plurality of adjacent signal elements;

selecting a signal element from each of more than one of the bands, at least one of the selected signal elements being from one of the bands having a plurality of adjacent signal elements;

processing the selected signal elements; and

performing a transformation on the processed selected signal elements.

29. (Once Amended) The method of claim 28 wherein the processing comprises quantizing.

30. (Once Amended) The method of claim 29 wherein the quantizing comprises quantizing the magnitudes of the selected signal elements.

31. (Once Amended) The method of claim 30 wherein the quantizing the magnitudes of the selected signal elements comprises quantizing the magnitudes using exponents associated with the magnitudes.

32. (Once Amended) The method of claim 28 wherein the processing comprises a non-linear mapping.

33. (Once Amended) The method of claim 28 wherein selecting the signal element comprises identifying the signal element having the largest magnitude within a band.

34. (Once Amended) The method of claim 28 wherein selecting the signal element comprises identifying the signal element having a preselected size of magnitude relative to other signal elements within a band.

35. (Once Amended) The method of claim 28 wherein performing the transformation comprises performing at least one of the following: a discrete cosine transformation and a discrete Fourier transformation.

36. (Canceled)

37. (Once Amended) The method of claim 28 wherein the signal elements comprise transform coefficients.

38. (Once Amended) The method of claim 37 wherein the transform coefficients comprise transform coefficients derived from a frame obtained by applying a window to samples of a signal.

39. (Once Amended) The method of claim 37 wherein the transform coefficients correspond to at least one of the following: discrete cosine transform coefficients and time-domain aliasing cancellation coefficients.

40. (Once Amended) The method of claim 28 wherein performing the transformation comprises using a transformation that reduces the average number of bits needed to encode the processed selected signal elements.

41. (Once Amended) The method of claim 28 further comprising using the processed selected signal elements to encode signal elements.

42. (Once Amended) The method of claim 41 wherein using the processed selected signal elements to encode signal elements comprises using the processed selected signal elements to encode signal elements in the respective bands of the selected signal elements.

43. (Once Amended) The method of claim 41 wherein using the processed selected signal elements to encode signal elements comprises allocating bits to the signal elements.

44. (Once Amended) The method of claim 41 wherein using the processed selected signal elements to encode signal elements comprises determining reconstruction levels for signal elements.

45. (Once Amended) A method of encoding a signal defined by signal elements that are discrete in at least one dimension, the signal elements comprising transform coefficients obtained using samples of the signal, the method comprising:

dividing at least some of the signal elements into a plurality of bands, at least one band having a plurality of adjacent signal elements;

selecting a signal element from each of more than one of the bands, the selected signal element having a preselected size of magnitude relative to the other signal elements within one of the bands, at least one of the selected signal elements being from one of the bands having a plurality of adjacent signal elements;

processing the selected signal elements, the processing including quantizing the magnitudes of the selected signal elements; and

transforming the processed selected signal elements using a transformation that reduces the average number of bits needed to encode the processed selected signal elements.

46. (Once Amended) The method of claim 45 further comprising encoding the transformed processed selected signal elements.

47. (Once Amended) A method of decoding, comprising:

receiving an encoded signal, the signal being defined by signal elements that are discrete in at least one dimension, the encoded signal of the type encoded by:

dividing at least some of the signal elements into a plurality of bands, at least one band having a plurality of adjacent signal elements;

selecting a signal element from each of more than one of the bands, at least one of the selected signal elements being from one of the bands having a plurality of adjacent signal elements; and

performing a transformation on the selected signal elements; and

decoding at least some of the received encoded signal, the decoding comprising performing an inverse transformation.

48. (Once Amended) The method of claim 47 wherein performing an inverse transformation comprises performing an inverse transformation on the transformed selected signal elements.

49. (Once Amended) The method of claim 47 wherein performing the inverse transformation comprises performing at least one of the following: an inverse discrete Fourier transformation and an inverse discrete cosine transformation.

50. (Once Amended) The method of claim 47 wherein decoding comprises using results of the inverse transformation to decode signal elements.

51. – 53. (Canceled)

54. (Once Amended) The method of claim 47 wherein the signal elements comprise transform coefficients.

55. (Once Amended) The method of claim 54 wherein the transform coefficients comprise transform coefficients derived from a frame obtained by applying a window to samples of a signal.

56. (Canceled)

57. (Once Amended) A method of decoding, comprising:

receiving an encoded signal, the signal being defined by signal elements that are discrete in at least one dimension, the encoded signal of the type encoded by:

dividing at least some of the signal elements into a plurality of bands, at least one band having a plurality of adjacent signal elements;

selecting a signal element from each of more than one of the bands, at least one of the selected signal elements being from one of the bands having a plurality of adjacent signal elements;

processing the selected signal elements; and

performing a transformation on the processed selected signal elements; and

decoding at least some of the received signal, the decoding comprising performing an inverse transformation.

58. (Once Amended) The method of claim 57 wherein the performing an inverse transformation comprises performing an inverse transformation on the transformed processed selected signal elements.

59. (Once Amended) The method of claim 57 wherein the processing comprises quantizing the magnitudes of the selected signal elements.

60. (Once Amended) The method of claim 59 wherein the quantizing the magnitudes of the selected signal elements comprises quantizing the magnitudes using exponents associated with the magnitudes.

61. (Once Amended) The method of claim 57 wherein the processing comprises a non-linear mapping.

62. (Once Amended) The method of claim 57 wherein decoding comprises using results of the inverse transformation to decode signal elements.

63. (Once Amended) The method of claim 62 wherein using results of the inverse transformation comprises using the results to decode the signal elements from the respective bands of the selected signal elements.

64. (Once Amended) The method of claim 62 wherein using the results of the inverse transformation comprises determining reconstruction levels for signal elements.

65. (Canceled)

66. (Once Amended) The method of claim 57 wherein the signal elements comprise transform coefficients.

67. (Once Amended) The method of claim 66 wherein the transform coefficients comprise transform coefficients derived from a frame obtained by applying a window to samples of a signal.

68. (Once Amended) The method of claim 66 wherein decoding further comprises performing an inverse transformation on the decoded signal elements.

69. (Twice Amended) A method of encoding a signal defined by transform coefficients that are discrete in at least one dimension, the method comprising:

determining a division of at least some of the transform coefficients into a plurality of bands, at least one of the bands having a plurality of adjacent transform coefficients; and

providing information describing the determined division.

70. (Once Amended) The method of claim 69 wherein providing information describing the determined division comprises encoding information describing the determined division.

71. (Twice Amended) The method of claim 70 further comprising encoding at least some of the transform coefficients using the determined division.

72. (Once Amended) The method of claim 70 wherein the determining comprises dividing based on at least one signal characteristic.

73. (Canceled)

74. (Twice Amended) The method of claim 72 wherein the at least one signal characteristic comprises a magnitude of at least one transform coefficient.

75. (Twice Amended) The method of claim 72 wherein the at least one signal characteristic comprises a difference between transform coefficients.

76. (Twice Amended) The method of claim 75 wherein the difference comprises a difference in transform coefficient magnitudes.

77. (Twice Amended) The method of claim 70 wherein the determining comprises beginning a new band when adjacent transform coefficients significantly differ in magnitude.

78. (Canceled)

79. (Twice Amended) The method of claim 70 wherein the determining comprises dividing the transform coefficients such that at least one band has a number of transform coefficients that is a power of two.

80. (Twice Amended) The method of claim 70 wherein the determining comprises dividing the transform coefficients such that at least two bands include a different number of signal elements.

81. (Twice Amended) The method of claim 70 wherein the encoding information describing the dividing comprises encoding the number of transform coefficients included in at least one band.

82. – 84. (Canceled)

85. (Twice Amended) The method of claim 70 wherein the transform coefficients comprise transform coefficients derived from a frame obtained by applying a window to samples of a signal.

86. (Twice Amended) The method of claim 70 wherein the transform coefficients comprise at least one of the following: discrete cosine transform coefficients and time-domain aliasing cancellation coefficients.

87. (Once Amended) The method of claim 70 wherein the determining differs for different signals.

88. (Once Amended) The method of claim 70 wherein the determining differs for different frames.

89. – 95. (Canceled)

96. (Twice Amended) A method of decoding, comprising:

receiving an encoded signal, the signal being defined by transform coefficients that are discrete in at least one dimension, the encoded signal of the type encoded by:

determining a division of at least some of the transform coefficients into a plurality of bands, at least one of the bands having a plurality of adjacent transform coefficients; and

encoding information describing the determined division; and

decoding at least part of an encoded signal, the decoding comprising using the received encoded information describing the determined division.

97. (Once Amended) The method of claim 96 wherein the information describing the division comprises information based on at least one characteristic of an encoded signal.

98. (Canceled)

99. (Twice Amended) The method of claim 97 wherein the at least one signal characteristic comprises a magnitude of at least one transform coefficient.

100. (Twice Amended) The method of claim 97 wherein the at least one signal characteristic comprises a difference between transform coefficients.

101. (Twice Amended) The method of claim 96 wherein the division comprises a division of the transform coefficients such that at least two bands include a different number of transform coefficients.

102. (Twice Amended) The method of claim 96 wherein the information comprises the number of transform coefficients included in at least one band.

103. – 105. (Canceled)

106. (Twice Amended) The method of claim 96 wherein the transform coefficients comprise transform coefficients derived from a frame obtained by applying a window to samples of a signal.

107. (Twice Amended) The method of claim 96 wherein the transform coefficients comprise at least one of the following: discrete cosine transform coefficients and time-domain aliasing cancellation coefficients.

108. (Once Amended) The method of claim 96 wherein the information differs for different signals.

109. (Once Amended) The method of claim 96 wherein the information differs for different frames.

110. – 115. (Canceled)

116. (Once Amended) A method of encoding a signal defined by signal elements that are discrete in at least one dimension, the method comprising:

dividing at least some of the signal elements into a plurality of bands, at least one band having a plurality of adjacent signal elements;

selecting a signal element from each of more than one of the bands, at least one of the selected signal elements being from one of the bands having a plurality of signal elements;

processing the selected signal elements;

performing a transformation on the processed selected signal elements;

encoding the transformed processed selected signal elements; and

encoding information describing the dividing.

117. (Once Amended) The method of claim 116 wherein selecting the signal element comprises identifying the signal element having a preselected size of magnitude relative to the other signal elements within a band.

118. (Once Amended) The method of claim 116 wherein processing the selected signal elements comprises quantizing.

119. (Once Amended) The method of claim 118 wherein quantizing comprises quantizing magnitudes of the selected signal elements.

120. (Once Amended) The method of claim 119 wherein the quantizing the magnitudes of the selected signal elements comprises quantizing the magnitudes using exponents associated with the magnitudes.

121. (Canceled)

122. (Once Amended) The method of claim 116 wherein the signal elements comprise transform coefficients.

123. (Once Amended) The method of claim 122 wherein the transform coefficients comprise transform coefficients derived from a frame obtained by applying a window to samples of a signal.

124. (Once Amended) The method of claim 122 wherein the transform coefficients correspond to at least one of the following: discrete cosine transform coefficients and time-domain aliasing cancellation coefficients.

125. (Once Amended) The method of claim 116 further comprising using the processed selected signal elements to encode signal elements.

126. (Once Amended) The method of claim 116 wherein the encoding information describing the dividing comprises encoding the number of signal elements included in at least one band.

127. (Canceled)

128. (Once Amended) A method of decoding, comprising:

receiving an encoded signal, the signal being defined by signal elements that are discrete in at least one dimension, the encoded signal of the type encoded by:

dividing at least some of the signal elements into a plurality of bands, at least one band having a plurality of adjacent signal elements;

selecting a signal element from each of more than one of the bands, at least one of the selected signal elements being from one of the bands having a plurality of signal elements;

processing the selected signal elements;

performing a transformation on the processed selected signal elements;

encoding the transformed processed selected signal elements; and

encoding information describing the dividing; and

decoding at least some of the received encoded signal, the decoding comprising:

using the information describing the dividing; and

performing an inverse transformation.

129. (Once Amended) The method of claim 128 wherein performing an inverse transformation comprises performing an inverse transformation on the transformed processed selected signal elements.

130. (Once Amended) The method of claim 128 wherein selecting the signal element comprises identifying the signal element having the largest magnitude within a band.

131. (Once Amended) The method of claim 128 wherein selecting the signal element comprises identifying the signal element having a preselected size of magnitude relative to the other signal elements within a band.

132. (Canceled)

133. (Once Amended) The method of claim 128 wherein the signal elements comprise transform coefficients.

134. (Once Amended) The method of claim 133 wherein the transform coefficients comprise transform coefficients derived from a frame obtained by applying a window to samples of a signal.

135. (Once Amended) The method of claim 133 wherein the transform coefficients correspond to at least one of the following: discrete cosine transform coefficients and time-domain aliasing cancellation coefficients.

136. (Once Amended) The method of claim 128 further comprising using the selected signal elements to encode signal elements.

137. (Once Amended) The method of claim 128 wherein the encoding information describing the dividing comprises encoding the number of signal elements included in at least one band.

138. (Canceled)

139. (Once Amended) A method of encoding an audio-type signal, the method comprising:

sampling the audio-type signal to obtain discrete samples and constructing therefrom frames, each frame obtained by applying a window to the discrete samples;

determining a set of transform coefficients from each of at least some of the frames; and

for each of at least some of the sets of transform coefficients:

dividing at least some of the transform coefficients into a plurality of bands, at least one band having a plurality of adjacent transform coefficients;

selecting a transform coefficient from each of more than one of the bands, at least one of the selected transform coefficients being from one of the bands having a plurality of adjacent transform coefficients;

processing the selected transform coefficients; and

performing a transformation on the processed selected transform coefficients.

140. (Once Amended) The method of claim 139 wherein processing comprises quantizing the magnitudes of the selected transform coefficients.

141. (Once Amended) The method of claim 139 wherein selecting the transform coefficient comprises identifying the transform coefficient having a preselected size relative to other transform coefficients within a band.

142. (Once Amended) A method of encoding an audio-type signal, the method comprising:

sampling the audio-type signal to obtain discrete samples and constructing therefrom frames, each frame obtained by applying a window to the discrete samples;

determining a set of transform coefficients from each of at least some of the frames;

for each of at least some of the sets of transform coefficients:

dividing at least some of the transform coefficients into a plurality of bands, at least one band having a plurality of adjacent transform coefficients; and

encoding the dividing.

143. (Once Amended) The method of claim 142 further comprising encoding at least some of the transform coefficients using the determined division.

144. (Once Amended) The method of claim 142 wherein the dividing differs for different frames.

145. (Once Amended) A method of decoding an audio-type signal, the method comprising:

receiving an encoded audio-type signal, the encoded signal of the type encoded by:

sampling the audio-type signal to obtain discrete samples and constructing therefrom frames, each frame obtained by applying a window to the discrete samples;

determining a set of transform coefficients from each of at least some of the frames;

for each of at least some of the sets of transform coefficients:

dividing at least some of the transform coefficients into a plurality of bands, at least one band having a plurality of adjacent transform coefficients;

selecting a transform coefficient from each of more than one of the bands, at least one of the selected transform coefficients being from one of the bands having a plurality of adjacent transform coefficients;

processing the selected transform coefficients; and

performing a transformation on the processed selected transform coefficients; and

decoding the received encoded audio-type signal, the decoding comprising performing an inverse transformation.

146. (Once Amended) The method of claim 145 wherein performing an inverse transformation comprises performing an inverse transformation on the transformed processed selected transform coefficients.

147. (Once Amended) The method of claim 145 wherein processing comprises quantizing the magnitudes of the selected transform coefficients.

148. (Once Amended) The method of claim 145 wherein selecting the transform coefficient comprises identifying the transform coefficient having a preselected size relative to other transform coefficients within a band

149. (Once Amended) A method of decoding an audio-type signal, the method comprising:

receiving an encoded audio-type signal, the encoded signal of the type encoded by:

sampling the audio-type signal to obtain discrete samples and constructing therefrom frames, each frame obtained by applying a window to the discrete samples;

determining a set of transform coefficients from each of at least some of the frames;

for each of at least some of the sets of transform coefficients:

dividing at least some of the transform coefficients into a plurality of bands, at least one band having a plurality of adjacent transform coefficients; and

encoding the dividing; and

decoding the received encoded audio-type signal, the decoding comprising decoding the dividing.

150. (Once Amended) The method of claim 149 further comprising decoding at least some of the transform coefficients using the decoded division.

151. (Once Amended) The method of claim 149 wherein the dividing differs for different frames.

152. (Once Amended) A method of encoding an audio-type signal, the method comprising:

sampling the audio-type signal to obtain discrete samples and constructing therefrom frames, each frame obtained by applying a window to the discrete samples;

determining a set of transform coefficients from each of at least some of the frames;

for each of at least some of the sets of transform coefficients:

dividing at least some of the transform coefficients into a plurality of bands, at least one band having a plurality of adjacent transform coefficients;

selecting a transform coefficient from each of more than one of the bands, at least one of the selected transform coefficients being from one of the bands having a plurality of adjacent transform coefficients;

processing the selected transform coefficients;

performing a transformation on the processed selected transform coefficients; and

encoding the dividing.

153. (Once Amended) A method of decoding an audio-type signal, the method comprising:

receiving an encoded audio-type signal, the encoded signal of the type encoded by:

sampling the audio-type signal to obtain discrete samples and constructing therefrom frames, each frame obtained by applying a window to the discrete samples;

determining a set of transform coefficients from each of at least some of the frames;

for each of at least some of the sets of transform coefficients:

dividing at least some of the transform coefficients into a plurality of bands, at least one band having a plurality of adjacent transform coefficients;

selecting a transform coefficient from each of more than one of the bands, at least one of the selected transform coefficients being from one of the bands having a plurality of adjacent transform coefficients;

processing the selected transform coefficients;

performing a transformation on the processed selected transform coefficients; and

encoding the dividing; and

decoding the encoded audio-type signal, the decoding comprising:

performing an inverse transformation; and

decoding the dividing.